

**U.S. ARMY-BAYLOR UNIVERSITY GRADUATE PROGRAM IN HEALTH CARE  
ADMINISTRATION**

**VISION 2005: A FORECAST OF EXECUTIVE LEADERSHIP SKILLS AND  
ASSOCIATED COMPETENCIES REQUIRED BY NAVY DENTAL CORPS  
OFFICERS INTO THE 21<sup>ST</sup> CENTURY**

**A GRADUATE MANAGEMENT PROJECT SUBMITTED TO THE PROGRAM  
DIRECTOR IN CANDIDACY FOR THE DEGREE OF MASTERS IN HEALTH  
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One of us has a clinical background as a military dentist, and the other a former role as an executive manager in a large retail business. Debates at home about health care topics often center on the "patient oriented" view versus the "bottom line" of the business world. The dichotomy of the two perspectives *within my family*, often provides the stimulus for my striving for further knowledge and achieving my goal to successfully complete the U.S. Army-Baylor Graduate Program in Health Care Administration. I owe much to my family: my wife and business woman, Cindy, and my two sons, Cord and Marshall, who provided support and love during two years of our lives which were interrupted with the distractions of full time study, research and the difficulties of cross-country moves.

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## **ABSTRACT**

In a time of dramatic change on all fronts - from human resources, to technology, to "optimization" - military dental health care executives must pursue goals to ensure both survival and progress. Advancing the welfare of a military dental organization and community requires a sound balance of performance-oriented management and proactive imaginative leadership. Many dental health care delivery leaders and administrators are uncertain of the leadership behaviors and skills that will be necessary for successful careers. This research identifies the most critical domains in the science of dental health care administration then differentiates and ranks job skill, knowledge, and ability (SKA) requirements that are necessary for successful senior dental health care managers today and in the future. Using a methodology called the Delphi technique, 67 senior leaders in the United States Navy Dental Corps responded to two iterations of the Delphi inquiry. Respondents identified 77 unique health care issues, which were divided into seven domains by a neutral panel of dental health care experts. These domains, ranked in order of importance, were: personnel management, leadership issues, dental health care management, resources management, information technology, quality of dental health care, and marketing. In the second Delphi iteration, respondents reviewed the same domain results and rated

identified job requirements on importance. The top 10 rated skills, knowledge, and abilities (SKAs) are reported in this study. Results indicate that in this rapid period of change, senior dental health care executives will need to focus their development on personnel management and leadership issues. This will require that they have an excellent understanding of strategic management as a philosophy that is inseparable from leadership. In addition, senior dental health care managers and leaders will need to demonstrate team-oriented leadership, marketing to the "line" and delivering quality care. Implications for senior dental health care leadership and administrator development initiatives are discussed in the researcher's conclusions.

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## **Introduction**

This is a time of dramatic change on all fronts for our nation's military - from streamlining to face new world challenges, to redefining its strategy. Like every other facet of the military, the United States Navy Dental Corps is part of this journey of change. The Navy Dental Corps has had to respond to the escalating demand for reform and many challenges as it enters the 21<sup>st</sup> century. Changes in the methods of dental health care delivery and dental readiness are placing unprecedented demands on those who lead and manage it. Intensification of the current pressures will continue as long as uncertainties concerning future reductions to military personnel exist; there is ambiguity regarding the career progression opportunities available to junior officers and enlisted sailors; and a sense of continuous reengineering/optimization occurs (Kongstvedt 1997). Advancing the welfare of a military dental organization and community requires a sound balance of performance-oriented management and proactive imaginative leadership.

In the context of rapid change, military training programs must maintain a strong process of external surveillance as well as internal assessment to ensure the continued relevance of its curricula to the skills, knowledge, and ability (SKA) requirements that will be needed to cope effectively with emerging leadership and managerial challenges.

The intent of this study is to obtain a consensus of opinion from the current senior executive leadership in the United States Navy Dental Corps regarding the most critical issues that must be addressed to ensure optimum performance at the senior management and executive level. In addition, a consensus will be sought regarding the critical SKAs that will be essential for success.

### **Literature Review**

Because of the rapid growth and changes over the last decades, new and challenging requirements emphasize the need for the leaders and managers of dental health care organizations to have the education and training required to manage in a changing environment. Numerous graduate programs in business, health care administration and management are offering executive skills courses to prepare their graduates for executive leadership positions (Dotter and Heskett 1993; Dolan 1992).

Analytical skills and functional abilities are critically important ingredients for managerial success in health care organizations. In the civilian sector, health care industry observers agree that business-related abilities and analytical skills will remain key elements of success for the leaders of health care organizations. There are strong trends and indicators that during this turbulent time of transition in the health care industry, leaders who are visionary with strategic plans, must have the interpersonal, communication and integrative skills for successful management and leadership (Earl and Pfannkuche 1991; Nystrom 1993)

There have been several forecasts of future SKAs by senior military leadership (Berger and Kutz 1991; Berger and Sudman 1993; Coile 1990; Hudak et al. 1993; Hudak et al. 1994; Reagan 1990; Duperrior 1995). Additionally, in response to the Department of Defense Appropriations Act of 1992, the military services were required to determine the professional administrative skills that medical treatment facility commanders must demonstrate (Report to Congress 1996). In compliance with this mandate, competencies were identified by a tri-Service Task Force. The Army and Navy developed military executive management education programs to ensure that military medical department leaders gained the necessary behaviors and competencies to effectively lead the military health care system in the future. Competencies reflected SKAs commonly accepted in the civilian sector, as well as those unique to the military. The competencies defined were intended to become the standard against which professional development programs within the Department of Defense (DoD) could be evaluated (Department of Defense 1992).

There has been agreement among military and civilian respondents regarding the skills needed in the changing health care environment (Hudak et al. 1993; Hudak et al. 1994; Sentell and Finstuen 1998). In the civilian sector, Fellows in the American College of Healthcare Executives identified issues using a Delphi study to content-analyze domains into nine areas of importance to future administrators. In order of ranked importance, domains were: cost/finance, leadership, professional staff interactions, health care delivery concepts, accessibility,

ethics, quality, risk management, technology and marketing. Among the executive skills (SKAs) judged by respondents as most important to manage these future issues, nearly 64% were associated with the domains of leadership and professional staff relations, strategic vision, physician motivation, conflict management and knowledge of hospital finance and cost accounting (Hudak et al. 1993).

Three similar studies were conducted in military health care facilities. In the first study, emphasis on financial and technical skills, in conjunction with interpersonal and communication skills, were found to be most important (Hudak et al. 1993). In the second study, Sentell and Finstuen forecast the leadership skills and competencies required by senior Naval Hospital Administrators. Military Treatment Facility (MTF) Commanders and Deputy Commanders for Administration (DCA) within the medical treatment facilities believed that cost/finance, health care delivery and access to care were critical competencies required for success in their jobs. They concluded that while a business orientation is needed for organizational survival, an emphasis on person-oriented SKAs are necessary for future success as a health care administrator in the Naval health care system (Sentell and Finstuen 1998). These expert respondents represented the Naval Medical Corps, Medical Service Corps, and Nurse Corps; *no respondents represented the Navy Dental Corps.*

In the third study, Wineman, Manglesdorff, and Finstuen forecast the leadership skills and competencies required by United States Army Dental Corps leadership as defined by the

responsible positions of commanders, residency directors and senior staff officers. The authors found behaviors of honesty, acting with integrity, accountability for actions, dedication to mission accomplishment and performance of duty with care and compassion to have strong similarities to United States Army values (Wineman and Manglesdorff 1998).

In a recently published study, Rogers, Finstuen, Manglesdorff and Snyder identified important domains in Coast Guard health care administration. SKAs fell into 15 rank-ordered domains which were: managed care, cost/finance, personnel, technology, leadership, education, business, strategic management, quality, healthcare delivery, readiness, access, professional staff relations, marketing and ethics. Analysis by the authors indicates that leadership skills are key elements, while an advanced education is seen as less important. (Rogers, Finstuen, Manglesdorff and Snyder 1999)

### **Purpose of this study**

In light of the many changes in the federal and military health care system, a need to delineate the skills needed for successful senior U.S. Navy Dental Corps officers is imperative. The purpose and intent of this study is to develop a consensus among surveyed senior dental corps officers about the attitudes and behaviors required by dental corps officers to perform at the senior executive level. This Delphi study is the first empirical assessment of future Navy Dental Corps issues; it will attempt to add additional insight to the growing literature in this area.

## Methodology

The Delphi Network for this study was comprised of 67 senior Navy Dental Corps officers in executive positions who were identified to participate in two rounds of a Delphi group exercise. These current Commanding Officers, Executive Officers, Specialty Leaders and Executive Staff officers were chosen as study respondents because of their level of experience in the Navy dental health care arena and demonstrated expertise in managing complex organizations, world wide, for Navy Dentistry. In addition, they were considered the best source to estimate future Navy Dental Corps senior officer job requirements and identify issues based on competencies and required skills, knowledge and abilities (SKA).

The research study methods used consists of two iterations of the Delphi technique for executive decision-making separated by an expert panel content analysis. The Delphi technique developed by the RAND Corporation (Helmer 1967; Dalkey 1969; Brown 1969; Delbecq et al. 1975) has been used in a variety of health care settings to establish priorities and predict future trends (Hudak et al. 1993; Hudak et al. 1994; Sentell and Finstuen 1998; Rogers et al. 1999).

In the theoretical framework, the researcher was responsible for preparation, distribution, and consolidation of data and followed methodologies utilized by previous U.S. Army-Baylor University Program in Health Care Administration studies. An

important aspect of this Delphi technique was feedback to the participants. Feedback to the Navy Dental Corps population was given in two ways. First, each identified person in the sample population was provided a copy of the results, regardless of whether they participated or not. Secondly, the research will be documented and made available to the entire Navy Dental Corps executive population from which participants were originally drawn via publication in a professional journal specializing in issues pertinent to dentist executives.

### **Ethical Concerns**

Anonymity of respondents was considered an essential ethical concern. To ensure this process, electronic responses received via the Internet, were collated as electronic files without retaining names or addresses. Original electronic message responses were then deleted; no record of individual participation was retained. Participation in the study remained strictly voluntary and if participants chose to become respondents, they completed the first round questionnaire and returned it to the researcher. With this triage methodology, the questionnaire was collected in a manner to guarantee anonymity. A non-attribution environment was critical to the viability of the study.

### **Delphi Iteration One, Issues**

During the first round of forecasting, Delphi members who were identified as a sample pool of expert participants, were

asked to identify the five major issues and/or behaviors that will be the cornerstones of success for senior Navy Dental Corps executive leaders for now and five years into the 21<sup>st</sup> century. The response format was open-ended. Members were asked to articulate specific SKAs needed to meet the needs created by these five major identified issues. The intent of collecting SKAs was to form a standard pool of requirements for each domain. The SKAs were derived directly from the responses contained in all of the questionnaires in this first phase of the Delphi process. Capturing the "language", as well as the perceptions and state of mind of the respondents, remained a constant in the research process. Electronic mail via Internet was the only method used for instrument delivery and for expert participants to return their responses (Appendices A and B). It was anticipated that electronic means of distribution would significantly increase the rate of participation over mailed inquiries. Using e-mail communication saved the government printing and mailing costs for each of the Delphi iterations. To shorten the response time required, background and demographic data was requested only during the second phase of the Delphi process.

### **Content Analysis of Issues**

Phase one responses, including issues and associated SKAs identified by the Delphi participants, were entered into a Microsoft Excel<sup>®</sup> spreadsheet. Key phrases were designated and assigned according to their main theme or content of each issue. Statements for SKAs were also tracked by the specific key



phrases. The frequency of responses for each key phrase was determined for each issue.

An expert panel of four senior Navy dental health care executives was assembled to review and sort the collected issues into a set of meaningful domain categories. This panel used the initial lists as a starting point to examine and modify the key phrases. Based on the panel's review and modification, the collected issues and key phrases were then sorted into meaningful sets of domain categories. The expert panel discussed issues and made modifications until all members achieved consensus. Though some phrases could be placed into more than one domain, members of the panel were asked to limit the duplication of key phrase placement into no more than two domains for any one phrase. Once the domain categories were agreed upon, they were given appropriate titles and then rank ordered by the issue's reported frequency.

### **Delphi Iteration Two, SKA Ratings**

The results of the phase one process were provided in two formats to the executive respondents during the second phase of the Delphi process (Appendix B). First, the data obtained was prioritized and returned to all participants as feedback. Second, from the SKAs identified within each domain, a structured numerical questionnaire was developed. The intent of collecting SKAs was to form a standard pool of job requirements for each domain. The SKAs were derived directly from the responses contained in all of the questionnaires in phase one of the Delphi

process. By capturing the "job language," the perception and state of mind of the respondents remained a constant in the research process. During this second round of the Delphi process, respondents were asked to review the feedback materials and provide ratings based on a 7-point relative importance rating scale. The 7-point scale was anchored at the extremes ranging from 1 = extremely unimportant to 7 = extremely important for each of the SKA items within each of the domains. By completing a Likert bi-polar, scaled questionnaire, respondents base their decisions on what they believe are the most important SKAs to their profession in the future. Rating reliabilities and descriptive statistics were computed for each of the SKA items.

At this point, a demographic survey was included to evaluate and validate the experiences of the sample population. Participants were asked to provide background information and demographic data such as age, gender, education and health care experience, current and past experiences, and personal affiliation with professional organizations (Appendix B). Obtaining and aggregating these variables assisted in evaluating and validating the expertise of the sample population.

## **Results**

### **Delphi Iteration One, Issues**

In the first iteration of the Delphi, 41 of 67 participants responded for a return rate of 61.2 percent. This response rate was considered adequate for the study (Richie, Tagliareni, and

Schmitt 1979). A total of 77 issues were identified, together with 199 corresponding SKAs.

### **Content Analysis of Issues**

To ensure content validity, the four expert panel members were asked to sort the collected issues into a set of meaningful domain categories and to determine or confirm the title for each domain. The average age of the panel was 53 years old with a total of 99 years of experience in a dental health care setting and a total of 38 years in dental health care administration. Collectively, the group held four doctorate degrees in dentistry and two master's degrees.

After the expert panelists examined the issue key phrases and determined domain titles, the experts were asked to make ratings of their individual judgments in terms of accuracy and confidence. They responded by the use of a 7-point relative confidence rating scale that ranged from 1 = extremely unsure to 7 = extremely confident. A second question of the accuracy of the group's revised issue placement was asked. Confidence ratings rose from 4.25 for the initial decisions to 6.25 for the group consensus decisions. The strong confidence scores reflected the panel's feeling that the issues were accurately placed in the correct domains; and established the content validity of each domain and SKA arrangement.

Once the expert panel approved the domains, each of the SKAs was evaluated for placement in the proper domain. Seven domain categories were established. Frequencies of the issue key phrases

were summed to arrive at a total domain frequency. Domains were then rank ordered by total frequencies as shown in Tables I. Domains were identified by their key phrase issue frequency and percentages as shown in Table II.

### **Delphi Iteration Two, SKA Ratings**

The issues obtained from the expert panel were used to operationally define the particular domains for the respondents during the second round of the decision making process. During this round of the Delphi process, SKAs associated with each domain were rated in terms of their importance as future job requirements. The same population of respondents that participated in the first survey was asked to review the group feedback and make 7-point scale importance ratings of the SKAs within each of the domains. The 7-point scale ranged from 1 = unimportant to 7 = extremely import. The response rate for this round was 76.1 percent (51/67).

Demographic and background data collected during this phase of the Delphi process showed the group to be 94% male with an average age of 49.78 (SD 4.24) years. The average experience in dental health care settings was 23.38 (SD 4.47) years with 8.00 (SD 6.07) years of executive administrative experience. All 51 respondents reported obtaining a doctorate degree in dentistry. Membership in a professional dental organization was reported by 98 percent of the respondents; only three respondents (5.9

percent) were members of a healthcare or management professional organization.

The Likert scale data was tabulated utilizing SPSS<sup>®</sup> statistical software and checked for input accuracy. Rank ordering the tabulated data by means in descending order was accomplished by SPSS<sup>®</sup>. On the seven-point scale utilized, the highest mean was 6.627 and the lowest mean was 4.275.

The highest ratings of the SKA items by the Delphi executives were assessed for the degree of overall agreement. The inter-rater reliability was determined by the use of Cronbach's coefficient alpha (Cronbach 1951). The results of this analysis are shown in Table III. Overall, reliability indices ranged from a low of .78 for marketing to a high of .92 for leadership issues. These findings indicated that the obtained ratings of SKAs were internally consistent and that the average values computed for the SKAs within specific domain categories were stable. It also indicates that participants agree on these average values to a high degree.

## **Discussion**

### **Predicted Future Issues**

The results of this study identify seven primary domains that senior dental health care executives must master in order to be successful. These areas of importance are: personnel

management, leadership issues, dental health care management, resources management, information technology, quality of dental health care, and marketing. The issues associated with each area are listed in Table I with associated frequencies. Understanding that the Delphi technique is an open-ended questionnaire and that individual responses have different levels of specificity, the researcher was able to reach several conclusions.

The most important issues that will confront senior Navy Dental Corps officers are in the areas of personnel management and leadership. These two domains alone account for over 49 percent of the issues (98 /177) identified by the respondents (Table II). Given the continuation of the military draw-down, the difficulties associated with recruiting and retention of dentists in the Navy, and numerous published scandals that have rocked both the government and the military, the concerns of military dental health care senior executives are consistent with the changes and the challenges faced by all officers in the military over the past five years.

Other areas that senior executive leaders felt were critical for success were dental health care management (18.59 percent of the issues) and resources management (15.58 percent of the issues). These are directly linked to the executive leaders' ability "to think outside the box" and to develop new and innovative ways to reduce cost and improve the quality and access to dental health care.

Comparing these results with previous studies that utilized both civilian and military health care executives as respondents, some interesting similarities and differences were observed (Hudak et al. 1993; Hudak et al. 1994; Sentell and Finstuen 1998; Rogers et al. 1999). In these four referenced studies, cost/finance was ranked as one of the top three domains, ranging from 9 to 24 percent. The results of this study indicate that concerns of cost/finance are still important, however, they no longer stand alone as domains and are now considered SKAs as part of a systems approach in resources management. This change in emphasis is probably due to the familiarity and experience of senior Navy Dental Corps executives with regard to managing budgets and policies.

Of particular interest was the 1994 study of Military Treatment Facility Commanders and Deputy Commanders for Administration that ranked leadership, marketing and ethics as the three least important issues, totaling 12 percent. The researcher attributed this to the "long standing process of military leadership development and selection. Study respondents appear to be more comfortable with 'leadership' issues they and their successors will face than with the financial and institutional issues of the future. The findings regarding marketing and ethics may reflect the relative certainty provided by defined populations of beneficiaries and policy generating support systems regarding ethical issues" (Hudak et al, 1994, p. 499). With respect to 'leadership' issues, the results of this

study differ with those previously published. The recent string of leadership failures at the senior military and civilian levels, the difficulties in recruiting and retention for the all volunteer military force, and the continued evaluation of Navy Medicine by Congress and the Navy "line" has resulted in the issues of personnel management and leadership being elevated by senior Navy Dental Corps executive officers to the top two issues.

These findings appear to indicate that a future study involving all levels of management, both civilian and military, should be conducted to re-evaluate the major issues and concerns that need to be addressed in this new millennium.

### **Skill, Knowledge, and Ability Requirements**

After identifying the areas of concern for the senior executives, the next logical step is to identify the necessary SKAs required to excel in those areas (domains). The results obtained by the second Delphi iteration were analyzed in two ways. First, the two most important SKAs within each domain were identified. Then the top ten and bottom ten SKAs of the aggregated domains were analyzed.

Table IV lists the top two SKAs per domain and appropriate descriptive statistics. The results are reflective of the most critical issues within each domain. A review at this level indicates Senior Navy Dental Corps executives must embrace



strategic management as a philosophy that is inseparable from leadership. In addition, senior executives must be able to clearly communicate a shared mission, vision and values, verbally and in writing, not only to leaders of Navy Dentistry but to Navy Medicine as well. They must also utilize multi-functional teams to embrace the organization's vision and goals while employing creative and innovative methods to meet and exceed the patients' needs in the delivery of dental health care. Senior executives must be vigilant in monitoring the organization by collecting data and using statistical analysis to interpret validated data. Considering the dynamic and fluid environment in which military leaders are currently operating, these results are not surprising.

The next level of analysis involves ranking the top and bottom ten SKAs of the aggregated domains. Tables V and VI display these results. All the top ten aggregate SKAs have mean ratings above 6.30 indicating a significant level of importance among all respondents. Four of the domains are in the top ten: leadership issues, marketing, quality of dental health care, and personnel management. Five, or 50 percent, of the top ten SKAs represent leadership issues. Analysis suggests that understanding strategic leadership and organizational behavior continue to be critical SKAs required by senior executives. These top ten SKAs indicate senior executives will need to employ strategic leadership to guide the organization through day-to-day

operations, while promoting the organization and maintaining high standards of quality care. In addition, the two communications SKAs can easily be identified as attributes associated with a successful leader.

The bottom ten SKAs are centered on the personnel management and resource management domains, to include: knowledge of continuing education, the Tricare Family Member Dental Plan, understanding of community management, recruiting, materials procurement, and the benefits of a mobile dental clinic. The importance of the bottom ten SKAs is not necessarily what SKAs were ranked at the bottom, but the mean score of the SKAs. Even the lowest SKA listed in Table VI is given an importance rating of 4.27 (SD 1.17). Analysis of the closeness of all the SKAs (mean range 4.27-6.63) indicates that senior Navy Dental Corps executive leaders need to be well-rounded, multi-faceted individuals.

Despite the increasingly complex requirements of dental health care management and administration, three of the bottom ten SKAs involved knowledge of long distance learning; knowledge obtained from advanced degrees (MHA, MBA); and skill to manage and integrate Graduate Dental Education. In addition, two of the bottom ten SKAs involve recruiting and retaining military dentists. This is surprising since current Navy dentist manpower levels are not adequate and first tour retention rates are less than 50 percent.

## Conclusion

In this study, the results of research forecast the future. Experienced senior Naval Dental Corps executives provide a consensus of opinion to identify and forecast critical issues associated with executive leadership competencies that will confront future Navy Dental Corps officers. This research also renders an empirical basis for identifying the skills, knowledge, and abilities that will be needed for program planning and successful executive performance in tomorrow's dental health care environment. These issues will focus leadership development for the Navy Dental Corps in the new millennium. To meet these challenges, Navy Dental Corps leaders must require senior executives to commit to developing and mentoring SKA requirements identified in this study. In addition, results from this study may: 1) be incorporated in the strategic plans of the institutions of higher federal education as they plan future curriculum development programs; 2) be used to make comparisons of the various service health care executives; 3) be used to judge and compare various educational styles for effectiveness and efficiency; 4) provide criteria for selection and promotion to higher rank; and 5) guide assignment officers (detailers) and community managers in the assignment of Navy Dental Corps officers to leadership and executive staff positions.

Specifically, senior Navy Dental Corps executives will need to focus their development around personnel management and

leadership issues. In addition, they will need an understanding of strategic management as a philosophy that is inseparable from leadership. Even though these are essential for their success, senior dental corps executive leaders must maintain a balanced and well-rounded base of SKAs associated with the technical aspects of dental health care such as administrative functions, information systems, dental health care delivery and resources management. By integrating technical and well-communicated strategic leadership, future senior Navy Dental Corps executives will lead their organization in the new millennium.

#### **Note**

Neither patients, nor privacy act information, nor other potentially sensitive materials were used in development of this study. The thoughts and opinions expressed in this article are the private views of the author and are not to be construed as reflecting the views of the Department of Defense nor the U.S. Government.

**Table I**

Key Phrase Issue Frequencies Grouped by Domain Categories  
(with consensus by Expert Panel convened on 1 March 2000)

Domain	Issues Identified with Frequencies
<b>Personnel Management</b> Total Issues identified (9) Total Frequencies (56)	Retention and recruitment (27) Education and training (12) Human resource management (5) Staff planning (5) Lack of clinical support staff (2) Contract management (2) Civilian personnel management (1) Incorporating non-dentist administrators (1) Relevancy of clinical skills (1)
<b>Leadership</b> Total Issues identified (19) Total Frequencies (42)	Strategic planning / mission accomplishment (8) Developing future leaders / mentoring (7) Communications skills (5) Team building - align with Medical Dept / DTFs / MTFs (3) Tri-service knowledge (2) Change management (2) Understanding legislative processes in dental managed care (2) Guiding / managing Organization Alignment (2) Selection of critical leadership (1) Management of people (1) Promoting outcomes measures - metrics (1) Flexibility (1) Understanding management skills - military vs business (1) Resolve conflict (1) Leadership (1) Challenge of High Performance Organization (1) Decision making / self evaluation (1) Promoting pride and professionalism / morale (1) Prioritization of customers / stakeholders (1)
<b>Dental Health Care Management</b> Total Issues identified (20) Total Frequencies (37)	Clinic / plant modernization and re-engineering (5) Expand access to specialty care (5) Managed care (4) Tri-Service resource sharing (3) Managing dental health care (2) Privatization of military workforce (2) Alignment with changing military requirements (2) Increase access to care (2) Enhance delivery systems (1)

Improve productivity through business decisions (1)  
 Disease - centered processes (1)  
 Outsourcing dental care (1)  
 Mobile dental command (1)  
 Prevention and wellness dentistry (1)  
 Consolidation of infrastructure with Medical Dept. (1)  
 Dental Reserve integration with Active Duty Component (1)  
 Best Business Practices (1)  
 Ethics of dental health - benefit vs right (1)  
 Understanding military dental health care delivery systems (1)  
 Technology to enhance clinical efficiency (1)

#### **Resources Management**

Total Issues identified (12)  
 Total Frequencies (31)

Financial management (6)  
 Fund sourcing (5)  
 Resources sharing / management (5)  
 Budgeting (3)  
 Cost analysis / containment (3)  
 Contracting process / negotiations (2)  
 Business expertise / management (2)  
 Improve investment in Navy dentistry (1)  
 Business Case Analysis knowledge (1)  
 Procurement / regulation of materials (1)  
 Direct Reimbursement vs TFMDP (1)  
 Competing for business with civilians (1)

#### **Information Technology**

Total Issues identified (6)  
 Total Frequencies (15)

Data collection and analysis (5)  
 Information systems (5)  
 Information management (2)  
 Data System integration (1)  
 Technology skills to conduct business (1)  
 Validation of data integrity (1)

#### **Quality of Dental Health Care**

Total Issues identified (5)  
 Total Frequencies (11)

Customer satisfaction (6)  
 Maintain standards of care (2)  
 Quality management (1)  
 Regulatory issues (JCAHO) (1)  
 Provide quality care (1)

#### **Marketing**

Total Issues identified (6)  
 Total Frequencies (7)

Marketing (2)  
 Marketing TFMDP (1)  
 Elevate dental health awareness / customer knowledge (1)  
 Champion dental health (1)  
 Prove value to line (1)  
 Public relations (1)

Table II

SKA RATING RELIABILITIES BY DOMAIN CATEGORIES

Domain	n	Percentage
Personnel Management	56	28.14
Leadership Issues	42	21.11
Dental Health Care Management	37	18.59
Resources Management	31	15.58
Information Technology	15	7.54
Quality of Dental Health Care	11	5.53
Marketing	7	3.52
Total	199	100

**Table III**

**SKA RATING RELIABILITIES BY DOMAIN CATEGORIES**

Domain	SKA Items Rated	Cronbach's Alpha
Personnel Management	30	0.92
Leadership Issues	20	0.89
Dental Health Care Management	20	0.89
Resources Management	15	0.88
Information Technology	10	0.86
Quality of Dental Health care	5	0.80
Marketing	5	0.78



Table IV

## Descriptive Statistics for the Top Two Rated SKA Requirements in Each Domain

Domain	SKA Item	Mean (SD)
Personnel Management	P17 Ability to communicate through speaking, writing and analytical expression	6.37 (.87)
	P23 Ability to develop a shared vision and values	6.26 (.97)
Leadership Issues	L20 Ability to accomplish mission	6.63 (.56)
	L3 Ability to communicate effectively	6.57 (.64)
Dental Health Care Management	D8 Skill in developing a dental health care delivery system to increase access to care	6.20 (.87)
	D15 Ability to work and plan credibly with multi-disciplinary medical and dental executive leadership	5.98 (1.10)
Resources Management	R14 Ability to apply systems thinking to solve problems	5.98 (1.12)
	R1 Knowledge of financial management	5.96 (.87)
Information Technology	I1 Ability to collect data, use statistical analysis and interpret data	6.05 (.90)
	I6 Ability to validate data (data integrity)	5.94 (1.14)
Quality of Dental Health Care	Q2 Ability to maintain high standards of care	6.49 (.85)
	Q1 Ability to maintain and elevate customer (patient) satisfaction	6.30 (.90)
Marketing	M5 Ability to prove value of Navy Dentistry to the "line"	6.49 (.77)
	M4 Skill in championing dental health	6.30 (.85)

**Table V**

**Descriptive Statistics for the Top Ten Rated SKAs Needed for Future Success**

Domain	SKA Item	Mean (SD)
1 Leadership Issues	L20 Ability to accomplish mission	6.63 (.56)
2 Leadership Issues	L3 Ability to communicate effectively	6.57 (.64)
3 Marketing	M5 Ability to prove value of Navy Dentistry to the "line"	6.49 (.77)
4 Quality of Dental Healthcare	Q2 Ability to maintain high standards of care	6.49 (.85)
5 Leadership Issues	L15 Ability to build and maintain effective teams	6.42 (.96)
6 Leadership Issues	L1 Knowledge of organizational behavior	6.42 (.85)
7 Personnel Management	P17 Ability to communicate through speaking, writing, and analytical expression	6.37 (.87)
8 Quality of Dental Health Care	Q1 Ability to maintain and elevate customer (patient) satisfaction	6.30 (.90)
9 Marketing	M4 Skill in championing dental health	6.30 (.85)
10 Leadership Issues	L6 Skill in retaining top quality military personnel	6.29 (.97)

**Table VI**

**Descriptive Statistics for the Bottom Ten Rated SKA Needed for Future Success**

Domain	SKA Item	Mean (SD)
1 Personnel Management	P19 Knowledge of long-distance learning through VTC and Internet	4.27 (1.17)
2 Resources Management	R11 Knowledge of the difference between Direct Reimbursement vs TFMDP	4.40 (1.30)
3 Dental Health Care Management	D13 Understand the benefits of a mobile dental clinic	4.42 (.77)
4 Personnel Management	P14 Knowledge obtained from advanced degrees (MHA, MBA, etc)	4.53 (1.32)
5 Personnel Management	P9 Understand community management issues and recruiting programs	4.63 (1.22)
6 Personnel Management	P5 Skill in recruiting dentists	4.64 (1.35)
7 Resources Management	R10 Knowledge of procurement and regulation of materials	4.68 (.93)
8 Personnel Management	P30 Ability to maintain clinical skills and provide patient care while in leadership or executive staff positions	4.78 (1.43)
9 Personnel Management	P18 Skill to manage and integrate Graduate Dental Education	4.80 (1.31)
10 Marketing	M2 Ability to market TFMDP and increase utilization	4.82 (1.32)

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## APPENDIX A DELPHI ROUND 1

### e-mail to Initiate Delphi Study

CAPT Michael W. Patterson, DC, USN  
Bureau of Medicine and Surgery (MED OODCB)  
Phone: (202) 762-3003  
DSN: 762-3003  
FAX: (202) 762-3023  
e-mail: [MWPatterson@us.med.navy.mil](mailto:MWPatterson@us.med.navy.mil)



Delphi(1)Encl7Jan00.d

oc



Delphi(2)Encl7Jan00.d

oc

#### **Dear Commanding Officers, Executive Officers, Specialty Leaders, and Executive Staff:**

CDR Andy Peters, DC, USN, a resident in the U.S. Army-Baylor University Graduate Program in Health Care Administration, is conducting a research study entitled "Vision 2005: A Forecast of Executive Leadership Skills and Associated Competencies Required by Navy Dental Corps Officers into the 21<sup>st</sup> Century." **Please take a few minutes to read the enclosed material and to participate in this worthwhile Delphi Study.** This study will seek to identify the most critical issues and differentiate the job skill, knowledge, and ability (SKA) requirements facing Navy Dental Corps leaders and dental health care executives to the year 2005 and beyond.

You were selected to participate in this study because of your recognized leadership and contributions to executive management in the Navy Dental Corps. The importance of this study cannot be overstated since it will help to identify the critical issues for the future. This study will impact Navy Dental Corps' strategic planning and will enable institutions of higher education to provide our future leaders and dental health care executives with the necessary skills and knowledge. The research results will be shared with all of our federal colleagues throughout the military health care system.



Please read Enclosure (1), which discusses the objectives of this study. Enclosure (2) is the actual Delphi study instrument; please complete and return via e-mail (mwpatterson@us.med.navy.mil) by 19 January 2000.

Please note: this is not a survey, but an effective means of assessing the judgment of a group of experts. Your responses will be absolutely confidential. At no time will individual respondents be identified.

I appreciate your assistance in CDR Peters' research and thank you in advance for your participation. For your convenience, we will complete this project via e-mail. If there are questions or need for clarification, please contact CDR Peters at DSN 762-3132 or via my (CAPT Patterson's) e-mail: mwpatterson@us.med.navy.mil

## **Information Paper for Delphi Study**

### **VISION 2005: A FORECAST OF EXECUTIVE LEADERSHIP SKILLS AND ASSOCIATED COMPETENCIES REQUIRED BY NAVY DENTAL CORPS OFFICERS INTO THE 21<sup>ST</sup> CENTURY**

Delphi Study conducted by CDR Andrew D. Peters, DC, USN, Resident,  
U.S. Army-Baylor University Graduate Program in Health Care  
Administration

## **Background Information**

The role of the dental health care executive is rapidly changing to meet the ever-growing demands of today's society. Pursuit of value, technological advances, and issues of access continue to impact on all aspects of the dental health care industry. In this evolving and highly uncertain environment, dental health care executives must not only maintain current but also develop new skills that will be required to meet issues of the future.

## **Objectives**

This executive skills project is being conducted by CDR Andrew D. Peters, DC, USN, an administrative resident of the U.S. Army-Baylor University Graduate Program in Health Care Administration, to identify major future dental health care executive issues to the year 2005. This project will further expound on anticipated skill, knowledge, and ability requirements that you, as professional experts in this field, expect will be needed to successfully operate in a complex and fluid environment.

## **Expert Respondents**

Commanding Officers, Executive Officers, Specialty Leaders, and Executive Staff, have been selected as respondents. This is a group of world-wide dental health care executives who are chosen as respondents with vast and diverse executive experience and demonstrate a desire to

provide dental health care in the Navy environment.

## Methods

**THIS IS NOT A SURVEY.** The technique being employed is known as the Delphi method. The Delphi was initially developed by the RAND Corporation and is a means of eliciting and gaining expert group judgements. Panelists are not required to travel; nor is advanced reading required. It has three hallmark features: 1) all responses are anonymous and expert opinions are obtained by questionnaire; 2) interaction among panelists is accomplished at each round by synthesizing all responses, informing each panelist of the group's current position and redistributing the questionnaire results for further consideration; and 3) the group generally achieves a consensus after a few rounds.

## How Long Will It Take?

The total time to respond to two questionnaires is estimated to be no longer than 45 minutes to one hour, over a one- to three-month period. The first Delphi Study Instrument is enclosure (2) and will require identification of the top five issues for dental health care executives and required SKAs. **Please complete and return by Wednesday, 19 January 2000.** In the subsequent questionnaire, the format will change to numerical responses, such as rating or ranking items, and hence should require less time than the first. At each round, we hope to receive your responses expeditiously to remain on schedule.

## Personal Utility of Results

By participation in this study, each expert will play a role in the determination of current and new directions in

the area of executive management of the Navy Dental Corps to the year 2005 and beyond. We believe that you will find it interesting to respond to your own and other dental executives' ideas in the project. We will send each participant a summary report of the Delphi results upon completion of the project.

### **What will the results be used for?**

Compiled results from this study will be used in several ways:

- 1) Results can be incorporated in the strategic plans of the Navy Dental Corps and institutions of higher federal education as they plan and develop future curriculum and programs.
- 2) Using our findings, comparisons will be made between the findings from different Delphi Studies of DoD health care executives.
- 3) These findings will be used to judge and compare various educational styles for effectiveness and efficiency.
- 4) Publication of the study results in a professional journal will add to the stream of research in this area and assist dental health care executives to meet the challenges of the year 2005 and beyond.

### **For further information contact:**

CDR Andrew D. Peters, DC, USN

Administrative Resident, U.S. Army-Baylor University  
Graduate Program in Health Care Administration

Phone: DSN 762-3132 or commercial (202) 762-3132

e-mail: (via Captain Patterson) [mwpatterson@us.med.navy.mil](mailto:mwpatterson@us.med.navy.mil)

**VISION 2005: A FORECAST OF EXECUTIVE LEADERSHIP SKILLS AND ASSOCIATED  
COMPETENCIES REQUIRED BY NAVY DENTAL CORPS OFFICERS INTO THE 21<sup>ST</sup>  
CENTURY**

Please continue to complete and return this Delphi Study Instrument (enclosure (2)) by **Wednesday, 19 January 2000**, and e-mail (via CAPT Patterson) to: CDR Andrew D. Peters, DC, USN

e-mail: (via Captain Patterson) [mwpatterson@us.med.navy.mil](mailto:mwpatterson@us.med.navy.mil)

**VISION 2005: A FORECAST OF EXECUTIVE LEADERSHIP SKILLS AND ASSOCIATED  
COMPETENCIES REQUIRED BY NAVY DENTAL CORPS OFFICERS INTO THE 21<sup>ST</sup>  
CENTURY**

**Delphi Study conducted by CDR Andrew Peters, DC, USN, Resident, U.S. Army-Baylor University  
Graduate Program in Health Care Administration**

**Instructions:**

- Please complete and return this questionnaire by **Wednesday, 19 January 2000**.
- E-mail to: (via CAPT Patterson) [mwpatterson@us.med.navy.mil](mailto:mwpatterson@us.med.navy.mil)
- List what you consider to be the **TOP FIVE** issues that leaders and dental health care executives will encounter in the next five years and beyond. Define the problems or issues as clearly as possible (in more than categorical terms). Do not feel restricted in your comments by the space provided; answer as thorough as necessary. An example of the kind of issue we are seeking might be: "Management of Contracts".
- Next, for each of the identified issues, list what you consider to be the requisite skills, knowledge, or abilities (SKAs) that will be needed to deal with each of the dental health care executive issues. To follow the previous example: the skills, knowledge, or abilities to enable effective management of contracts may include emphasis on negotiating, interpersonal relations, communication, forecasting, or cost analysis.
- **Thank you for your time and cooperation.**

What is your position (i.e. CO, XO, Specialty Leader, Executive Staff)?	Position:
---	-----------

<u>TOP FIVE Dental Health Care Issues</u>	<u>Skills, Knowledge, or Abilities required to address issue</u>
1.	
2.	
3.	
4.	
5.	

**APPENDIX B  
DELPHI ROUND 1**

**e-mail for Delphi Round 2**

CAPT Michael W. Patterson, DC, USN  
Bureau of Medicine and Surgery (MED OODCB)  
Phone: (202) 762-3003  
DSN: 762-3003  
FAX: (202) 762-3023  
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Encl(2)22Mar.doc



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**Dear Commanding Officers, Executive Officers, Specialty Leaders, and Executive Staff:**

CDR Andy Peters, DC, USN, a resident in the U.S. Army-Baylor University Graduate Program in Health Care Administration, is continuing a research study entitled "Vision 2005: A Forecast of Executive Leadership Skills and Associated Competencies Required by Navy Dental Corps Officers into the 21<sup>st</sup> Century." **Please take a few minutes to read the enclosed material and to participate in this second (and final) Delphi questionnaire regardless of whether you responded to the first questionnaire.** This study will seek to identify the most critical issues and differentiate the job skill, knowledge, and ability (SKA) requirements facing Navy Dental Corps leaders and dental health care executives to the year 2005 and beyond.

Again, you were selected to participate in this study because of your recognized leadership and contributions to executive management in the Navy Dental Corps. The importance of this study cannot be overstated since it will help to identify the critical issues for the future. This study will impact Navy Dental Corps' strategic planning and will enable institutions of higher education to provide our future leaders and dental health care executives with the necessary skills and knowledge. The research results will be shared with all our federal colleagues throughout the military health care system.

Please read Enclosures (1) and (2), which provides feedback to you from the first iteration of the Delphi study (encl (1)) and reviews the objectives of this study (encl (2)). **Enclosure (3) is the actual Delphi Round 2 Questionnaire; please complete and return via e-mail ([mwpatterson@us.med.navy.mil](mailto:mwpatterson@us.med.navy.mil)) by Friday, 31 March 2000.**

Please note: this is not a survey, but an effective means of assessing the judgement of a group of experts. Your responses will be absolutely confidential. At no time will individual respondents be identified.

I appreciate your assistance in CDR Peters' Delphi study and thank you in advance for your participation. The response rate for the first iteration of this Delphi method was 61 percent, a very high return rate. We will continue to complete this project via e-mail. If there are questions or need for clarification, please contact CDR Peters at DSN 762-3132 or via my e-mail: [mwpatterson@us.med.navy.mil](mailto:mwpatterson@us.med.navy.mil)

M.W. PATTERSON  
CAPT, DC, USN

Dear Experts:

Enclosed are the first round results of the Delphi Study entitled: **"Forecast 2005: A Forecast of Executive Leadership Skills and Associated Competencies Required by Navy Dental Corps Officers into the 21<sup>st</sup> Century."** As you may recall, this research seeks to identify the most critical issues and differentiate the job skill, knowledge, and ability (SKA) requirements facing Navy Dental Corps leaders and executives into the next decade.

As promised, I intend to provide as much feedback as possible. Accordingly, the first round's detailed responses from all participants are enclosed. I thank you for prompt and thorough responses that led to a 61 percent return rate; a rate that is very reasonable given the type of research methodology used.

**Regardless of whether you responded to the first questionnaire**, I now request that you take a few minutes to **complete and return the Delphi Round 2 Questionnaire (enclosure (3))**. Although the questionnaire is longer than the first one, you will complete it more quickly because the format only requests numerical responses. I would appreciate you **returning Enclosure (3), the SKA rating questionnaire and demographic data worksheet, via e-mail ([mwpatterson@us.med.navy.mil](mailto:mwpatterson@us.med.navy.mil)) by Friday, 31 March 2000**. Though response by e-mail is preferred, an option is to download, print, then circle the appropriate answers. Return to me via fax (202) 762-3023 DSN 762 or via mail.

Again, this is for Commanding Officers, Executive Officers, Specialty Leaders, and Executive Staff. Thank you for participating and using your often-valuable time to complete Delphi Round 2 questionnaire. Participating in this project may help benchmark the direction of executive skill education in the Navy Dental Corps for the next decade.

Should anyone have comments, recommendations, or questions, please call me at DSN 762-3132 or commercial (202) 762-3132, FAX (202) 762-3023. Should you desire to return the questionnaire by mail, please send it to:

CDR Andrew D. Peters, DC, USN  
Administrative Resident, U.S. Army-Baylor  
Program in Health Care Administration  
4904 Fieldwood Court  
Fairfax, VA 22030

Very Respectfully,

A. D. PETERS

(continued)

Page 1 of 4



**Feedback to Expert Respondents**  
**VISION 2005: A FORECAST OF EXECUTIVE LEADERSHIP SKILLS AND**  
**ASSOCIATED COMPETENCIES REQUIRED BY NAVY DENTAL CORPS**  
**OFFICERS IN THE 21<sup>ST</sup> CENTURY**

An expert panel of senior Navy Dental Corps officers and executives assisted in grouping the issues from the first round of the Delphi study into the domains or categories listed below. After reviewing this document, please complete Delphi Round 2 Questionnaire and Demographic Data Sheet (enclosure (3)) and return **via e-mail** ([mwpatterson@us.med.navy.mil](mailto:mwpatterson@us.med.navy.mil)) **by Friday, 31 March 2000**. Please rate the **RELATIVE IMPORTANCE** of all of the skills, knowledge, and abilities (SKAs) using the 7-point scale provided to the right of the items (unimportant = 1; extremely important = 7).

<b>Issue Domains</b>	<b>Issues Identified</b>	<b>Frequency</b>	<b>SKA Items to be rated</b>
Personnel Management	9	<b>56</b>	30
Leadership	19	<b>42</b>	20
Dental Health Care Management	20	<b>37</b>	20
Resource Management	12	<b>31</b>	15
Information Technology	6	<b>15</b>	10
Quality of Dental Health Care	5	<b>11</b>	5
Marketing	6	<b>7</b>	5
<b>TOTALS</b>	<b>77</b>	<b>199</b>	<b>105</b>

**Feedback From Delphi Round 1**

Thank you for your continued interest in this Delphi research study. Feedback results from the first iteration are provided for your information.

Sample size:	n =	67
Round one answers returned		41
Return rate		61 %
Unique Issues identified		77
Frequency of identified issues		199

The domains, issues, and respective frequencies from the first round of the Delphi are listed below. Please take a moment to review prior to completing the Delphi Round 2 Questionnaire (enclosure (3)). When the data analysis is complete, we will send you a copy of the final results of the study.

**Key Phrase Issue Frequencies Grouped by Domain Categories**  
**(with consensus by Expert Panel)**

Domain	Issues Identified with Frequencies
<b>Personnel Management</b> Total Issues identified (9) Total Frequencies (56)	Retention and recruitment (27) Education and training (12) Human resource management (5) Staff planning (5) Lack of clinical support staff (2) Contract management (2) Civilian personnel management (1) Incorporating non-dentist administrators (1) Relevancy of clinical skills (1)
<b>Leadership</b> Total Issues identified (19) Total Frequencies (42)	Strategic planning / mission accomplishment (8) Developing future leaders / mentoring (7) Communications skills (5) Team building - align with Medical Dept / DTFs / MTFs (3) Tri-service knowledge (2) Change management (2) Understanding legislative processes in dental managed care (2) Guiding / managing Organization Alignment (2) Selection of critical leadership (1) Management of people (1) Promoting outcomes measures - metrics (1) Flexibility (1) Understanding management skills - military vs business (1) Resolve conflict (1) Leadership (1) Challenge of High Performance Organization (1) Decision making / self evaluation (1) Promoting pride and professionalism / morale (1) Prioritization of customers / stakeholders (1)
<b>Dental Health Care Management</b> Total Issues identified (20) Total Frequencies (37)	Clinic / plant modernization and re-engineering (5) Expand access to specialty care (5) Managed care (4) Tri-Service resource sharing (3) Managing dental health care (2) Privatization of military workforce (2) Alignment with changing military requirements (2) Increase access to care (2) Enhance delivery systems (1) Improve productivity through business decisions (1)

	Disease - centered processes (1)
	Outsourcing dental care (1)
	Mobile dental command (1)
	Prevention and wellness dentistry (1)
	Consolidation of infrastructure with Medical Dept. (1)
	Dental Reserve integration with Active Duty Component (1)
	Best Business Practices (1)
	Ethics of dental health - benefit vs right (1)
	Understanding military dental health care delivery systems (1)
	Technology to enhance clinical efficiency (1)
<b>Resources Management</b>	Financial management (6)
Total Issues identified (12)	Fund sourcing (5)
Total Frequencies (31)	Resources sharing / management (5)
	Budgeting (3)
	Cost analysis / containment (3)
	Contracting process / negotiations (2)
	Business expertise / management (2)
	Improve investment in Navy dentistry (1)
	Business Case Analysis knowledge (1)
	Procurement / regulation of materials (1)
	Direct Reimbursement vs TFMDP (1)
	Competing for business with civilians (1)
<b>Information Technology</b>	Data collection and analysis (5)
Total Issues identified (6)	Information systems (5)
Total Frequencies (15)	Information management (2)
	Data System integration (1)
	Technology skills to conduct business (1)
	Validation of data integrity (1)
<b>Quality of Dental Health Care</b>	Customer satisfaction (6)
Total Issues identified (5)	Maintain standards of care (2)
Total Frequencies (11)	Quality management (1)
	Regulatory issues (JCAHO) (1)
	Provide quality care (1)
<b>Marketing</b>	Marketing (2)
Total Issues identified (6)	Marketing TFMDP (1)
Total Frequencies (7)	Elevate dental health awareness / customer knowledge (1)
	Champion dental health (1)
	Prove value to line (1)
	Public relations (1)

## Demographic data

### Delphi Respondent Background Information

Please complete the following items. Fill in the highlighted areas or "X" as appropriate

Note: Please complete "Ratings of SKAs" worksheet if you have not done so.

Age:

Gender:

Grade:

#### Combined Command Experience:

CO

XO

Executive Staff

Specialty Leader:

Other:

Total Years

#### Experience in dental health care setting:

Military:

Civilian:

Total Years

#### Educational Background:

Bachelor's Degree:

Master's Degree:

Doctorate Degree:

Specialty Certificate:

Board Certification:

Total Degrees / Certificates

#### Experience in dental health care administration:

Military:

Civilian:

Total Years

#### Membership in professional dental organizations or health care administration (HCA) organizations:

##### Professional Dental Organizations

Status

ADA

AGD

Other:

##### HCA Organizations

Status

ACHE

MGMA

ACPE

Other

Note: Please complete "Ratings of SKAs" worksheet if you have not done so.